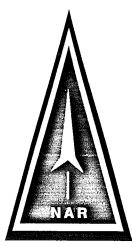
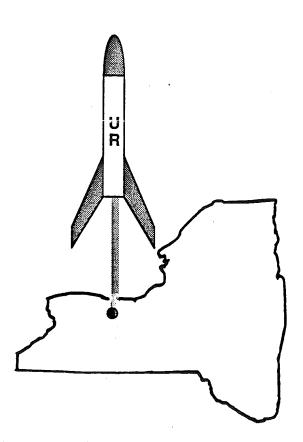


THE UPSTATE ROCKETEER

The Official Newsletter of MARS NAR Section #136



Volume 4, No. 1 Published by the Monroe Astronautical Rocket Society February 1991



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The Upstate Rocketeer is published six times a year by the Monroe Astronautical Rocket Society as a service to its members and NAR members in Western and Central New York. Subscriptions are \$2.50/year. The Upstate Rocketeer is edited by Dan Wolf. Send all comments, complaints, letters, plans, subscriptions, etc. to him at the following address: Upstate Rocketeer

c/o Dan Wolf 235 Kislingbury St. Rochester, NY 14613

MARS Membership - February 1991

Dan Wolf - President Jeff Ryan - Vice President

Ferenc Roka - Secretary/Treasurer

Roy Metz - Senior Advisor

Mike O'Brien

Mark Doty

Jay King Mary Wolf William Springer Sarah Wolf

Blowin' In the Wind

Hello everybody. March is here and the first MARS club launch of 1991 is coming up on March 17th. Hopefully everyone will have recovered from the ice storm by then!

This year I had hoped that MARS would be better prepared for growth than in recent years. Let me explain what I mean by this. In past years, it seems that by the time we got going for the year, half of the summer was over. This year I think we have avoided that. We have already contacted two schools in the area about working with their science teachers on model rocketry projects. We have also contacted St. John Fisher college about participating in this year's Science Exploration Days program. Lastly, I believe the NAR's new "emissaries in the field" program that was outlined in January/February AmSpace will be an excellent opportunity for us to introduce many rocketry consumers to the NAR and MARS and hopefully recruit new members in the process. More details about the above activities can be found elsewhere in this issue.

Also in this issue is an announcement and rules for NYSPACE. NYSPACE is an acronym for The New York Spacemodeling Annual Championship & Exhibition. This event will hopefully catch on and be an annual event in New York state. Perhaps in the future we will be able to have it included as part of the Empire State Games.

To round out the issue we have some photos of last year's launches and a plan for B Boost/Glide. Also, take note of the many contest opportunities in Upstate New York slated for this spring and early summer. It is shaping up to be an exciting year.

Until Next Time,

Dan

MARS CLUB NEWS

Although attendance was light at the January and February meetings, those members in attendance managed to make several plans for the upcoming months. First off, a St. Patrick's Day Sport Launch has been scheduled for Sunday March 17th at 1:30 PM. Besides the fun flying, the club decided that this year, at each Sport Launch we will hold a single NAR contest event as practice for NARAM (and as practice for our own upcoming contests). For the St. Patrick's Day Launch, we will be flying A Streamer Duration. Also at this launch Leprechaun Spot Landing will be flown. To enter this event, an Estes Leprechaun, Sprite, Gnome or any rocket painted green can be used. The entry that lands closest to the 4 Leaf Clover flag will be the winner. Two contests have also been planned. Both will be Open Meets. For more information see the article in this issue and also the "EVENTS CALENDAR".

The club also discussed the idea of working with area school science teachers on classroom rocketry programs. Ferenc Roka supplied the name of the teacher in the Hilton School District who runs the rocketry program there. A letter was sent to this teacher along with some recent issues of our newsletter. Plans are to contact the Fairport School District as well.

Also discussed was the idea of MARS participating in the St. John Fisher Science Fair in the form of an exhibit similar to the one we had at the Amherst Air Show last year but probably with more emphasis on educational aspects of the hobby. Members present felt that we should pursue this idea further and Dan Wolf was to contact the college about the event. See report elsewhere in this issue for an update on the latest about this.

Lastly, at the February meeting, the members present reviewed information from AMA HQ regarding insurance. Again, see report elsewhere for an update on the insurance issue.

Leprechaun

MARS Plans Exhibit for Science Exploration Days

Science Exploration Days, known to many as the St. John Fisher Science Fair is a two day program designed to expose Jr. and Sr. High School students to leaders in Rochester science, industry, and technology. It is sponsored by the Central Western Section of the Science Teachers Association of New York. This year the fair is scheduled for Wednesday, May 22nd and Thursday, May 23rd. The exhibits are open to students from 9:15 AM to 1:45 PM each day. One day is for Jr. High students and the other is for Sr. Highs. In addition, the exhibits are open to the public from 7 PM to 9 PM on Wednesday.

A wide variety of companies organizations will have exhibits at the show including most of the professional engineering societies, many area colleges, and various local businesses. MARS was an exhibitor in the early years of the fair (15+ years ago) and even held a demo launch one year. Each of the schools in the area is only allowed to bring a certain number of students. Even so, over 3500 students and their teachers will attend the event as well as the general public at the evening session. Thus the fair is an excellent activity for MARS to participate in. It gives us an opportunity to expose many people to the many facets of our hobby that they are probably not aware of, while at the same time making them aware of the NAR and MARS.

At the February club meeting, the group agreed to continue with plans for an exhibit at the Fair. It was felt that we would be able to have coverage at the exhibit in spite of the fact that two of the sessions are in the daytime. More planning for the event will be done over the next few months via phone calls and club meetings. If you have any thoughts or ideas about the MARS exhibit please let me know your ideas. One thing to keep in mind is that the information we received about the fair indicates that "the most successful exhibits include hands on activities and demonstrations." We can't have a launch inside the building but maybe some "action videos", computer simulations, or other types of activities would work. Let me know your ideas.

MARS Drops Section Insurance

The club received its AMA club renewal forms about a month ago. To update everybody, the club has been chartered as an AMA club the last 2 years so that the club and more importantly the flying site owner is insured. It is often difficult to obtain permission to use a field for flying model rockets without providing insurance. Unfortunately, the AMA has changed the way it handles memberships for those only interested in model rocket insurance. Under the old method, the costs were three "rocket insurance only" memberships at \$7.00 plus \$20.00 to charter the club and an additional \$10.00 to cover the site owner. This made for a total of \$61.00 although the direct cost to the club was only \$30.00 since the members paid for their own individual AMA memberships. Now, "rocket insurance only" memberships have been eliminated and 5 AMA members are required to charter a club, 3 of them adults. Thus the cheapest way to obtain insurance for site owners under the new AMA plan is as follows: 3 Senior memberships at \$40.00 plus 2 Junior memberships at \$7.00 plus the \$20.00 club charter fee and the \$10.00 fee to cover the site owner. The new total is \$164.00. This is a considerable amount of money to pay out on a yearly basis just to cover the site owner. .

I say just to cover the site owner because we are getting little else from the coverage. Keep in mind that the individual insurance at \$40.00 only provides \$100000 of insurance and then only after your own insurance has been exhausted. If you have a liability umbrella on your homeowners insurance of 3 million dollars for example, the entire 3 million would have to paid out before the AMA policy pays a dime. This is an extremely unlikely occurrence. The club insurance is also of little value since the club has virtually no assets and again, the officers of the club would be covered by their own insurance policies first. It is unfortunate that for a reduced rate we can't waive all insurance benefits except for insurance for the site owner.

Because of this effective 2.5 times increase in insurance rates to obtain site owner insurance MARS has decided not to have insurance for the club or the site owner this year. The impact this will have on obtaining a new launch site is not clear but hopefully it will not be a major stumbling block. Hopefully the NAR Insurance Committee will be able to find a cheaper alternative in the near future.

NEW YORK SPACEMODELING ANNUAL CHAMPIONSHIP & EXHIBITION

The New York Spacemodeling Annual Championship & Exhibition (NYSPACE) is the brainchild of Jeff Vincent of the Albany-Schenectady-Troy Rocket Enthusiasts (ASTRE). The contest is basically a standard NAR sanctioned regional meet with a special scoring system for club points similar to that used at FAI meets to allow all New York State NAR Sections to compete for the state championship. The full rules for the meet are shown in the next column.

This meet will be an excellent opportunity for all New York state NAR members and sections to have the opportunity to participate in a "championship" type meet. Sort of a mini NARAM. Plans are for the contest to rotate around with a different New York NAR section serving as host for the meet each year. In this way, the contest should be close enough for every New York state NAR member to participate at least every couple of years if not every year.

This year the contest is scheduled for Memorial Day weekend, May 25-26. It will be hosted by ASTRE and flown at their field near Amsterdam, NY. The events this year are not difficult ones so hopefully we will have several MARS members competing. At the minimum, we need to have 3 entries in each event in order to earn the maximum possible points per the FAI style scoring system. Besides myself, I know of only one other MARS member (so far) who is planning on attending. We need at least one other member to compete if we hope to challenge for the title. Of course it would be great if we had more members in attendance. If you have wanted to attend one of the ASTRE meets in the past, if you want to experience a contest with a "championship" atmosphere, if you want to represent MARS in this event, or if you just want to enjoy a fun weekend of friendly contest and sport flying on ASTRE's large and open launch site then mark the weekend of May 25-26 on your calendar and plan on joining the rest of the MARS crew for the inaugural edition of NYSPACE.

NYSPACE Draft Rules

- 1. General The New York Spacemodeling Annual Championship & Exhibition (NYSPACE) is an annual model rocket contest held in New York State. NYSPACE shall determine the Champion NAR Section of New York State. The purpose of the meet is to promote and encourage NAR Section activity in New York State through an annual state-wide championship.
- 2. Contest Structure NYSPACE is a NAR sanctioned regional meet flown in the spring of the year. The meet shall provide a broad test of rocket skills by selection of events representative of typical NAR competition. Above and beyond the NAR rules pertaining to individuals, teams, and sections, NYSPACE will determine the Champion Section of New York State. Active New York State Sections will serve as hosts of the meet on a rotating basis.
- 3. Section Entries NYSPACE is open to any chartered NAR Section based in or has a majority of its members residing in New York State. Each section entry shall pay an entry fee, above and beyond fees for individual entrants, to offset costs and pay for awards. Prior to flying the meet, each section shall designate up to three individual entries to represent them in each contest event. Note that these may be different entries for each event.
- 4. Individual Entries An individual may fly for a Section if they are a NAR member and a member in good standing of that section. Proxy flying consistent with NAR rules is allowed if both the entrant and the person proxy-flying the models meet this requirement. If the individual is a member of a team entry, only that individual may participate in a given event (i.e. he/she may not be assisted by their teammate(s) in that event). There shall be no age divisions in NYSPACE scoring.
- 5. Scoring For each event, the scores of the (up to) three individual entries shall be summed for a Section score. On the basis of these section scores, each section will be awarded points toward the NYSPACE Championship, calculated in the same manner as NAR points.

- 6. Trophies There shall be a NYSPACE Championship Trophy, which shall rotate amongst the annual winners of the meet. There shall also be non-rotating trophies to recognize the leading Sections.
- 7. Example The following is an (abbreviated) example of NYSPACE flying and scoring. Prior to flying the meet, each Section leader has paid the section entry fee and submitted lists of their representatives in each event.

Event 1 - B Streamer Duration (MR) (WF=6)						
Contestant	Final Score	Section				
1. Dave	317 sec	DART				
2. John	311 sec	JATO				
3. Steve (of Steve	285 sec	SCUD				
& Sam Team)					
4. Jeff	244 sec	JATO				
5. Jake & Joe Team	211 sec					
6. Donna	151 sec	DART				
7. Sally	127 sec	SCUD				
8. Sid	99 sec	SCUD				
9. Jill	46 sec	JATO				
10. Don (of Don	DQ	DART				
& Dean Team)						
11. Jakov	DQ					
Section	Total Points					
1. JATO	601 sec 180					
2. SCUD	511 sec 108					

468 sec 72

3. DART

Contestant	Final Score	Section
 Jakov 	985 pt	JATO
2. Jill	970 pt	JATO
3. Dave	935 pt	DART
4. Sid	910 pt	SCUD
5. Jake & Joe Team	845 pt	
6. Sally	630 pt	SCUD
7. Sandy	560 pt	SCUD
8. Jeff	DQ	JATO
9. Steve & Sam Team	DQ	
10. Dean (of Don	DQ	DART
& Dean Team)		

Se	ction	Total	Points
1.	SCUD	2100 pt	300
2.	JATO	1955 pt	180
3.	DART	935 pt	120

Overall Point Results

<u>Section</u>	B SD	A B/G	A PD	B R/G	OSL	C PL	SpSc	Total
1. JATO	180	180	90	360	36	210	180	1236
2. SCUD	108	120	150	216	60	84	300	1038
3. DART	72	300	60	144	24	126	120	906

MARS Plans Two Open Meets

At the January MARS club meeting it was decided that we would host two contests of our own this spring. Both of the meets will be open meets. Two things set these contests apart from meets the club has held the last few years. First, it was decided that the meets would be flown as two day contests. It was noted that in the past two years we have held some meets on Saturday and others on Sunday. The disadvantage of the Saturday meets was that some members have to work Saturdays. Sunday meets were difficult as some members have church and family commitments on Sunday. It was also noted that it was difficult to get all the flights flown at one day open meets, especially for the people running the range. These reasons, plus the fact that we will be flying altitude events led us to schedule the meets for both Saturday and Sunday.

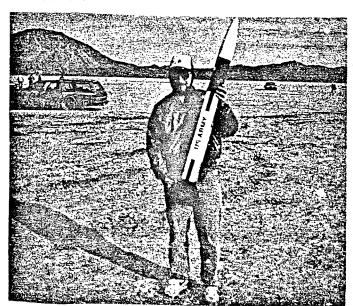
The second change, is the fact that altitude events will be flown for the first time in many years at a MARS meet. The last MARS meet where I recall altitude was flown was in the 1975-77 time frame. We will probably set up the trackers at the yet to be scheduled April sport launch as a practice session and also as training for anyone who wants to learn to track.

Anyway, the first meet is UPSTATE II and it will be flown on May 4-5. The second meet is AUR (Almost Upstate Repeat) and it is scheduled for June 8-9. Weather permitting, we will start at 10:00 AM on Saturday and fly until 5:00 PM. We will try to fly altitude on Saturday from 2:00 to 3:00. Sunday, we will start at 12:00 noon and again fly until 5:00 if necessary. Anyone still having altitude events left to fly can fly them Sunday from 2:00 to 3:00. Note that these plans are tentative and may change due to weather conditions. The possibility of the meet being reduced to a one day contest exists if the weather doesn't cooperate. That's about it. A list of the events can be found in the "Events Calendar."

Besides UPSTATE III, AUR, and NYSPACE, there are several other NAR contests coming up this spring. ASTRE is flying a busy schedule. Besides NYSPACE, ASTRE will be hosting two other regionals. The first one is called "BART vs. the Smog Monster" and will be held on April 20-21. The second is called the "Northeast Boost/Glider Championships" and it is scheduled for May 11-12. Again, consult the "Events Calendar" for a listing of the events. If you are planning on attending the ASTRE meets keep in mind that they will plan on having most of the flying completed on Saturday and early Sunday. Plan on doing most of your flying the first day.

The SRB Section of Syracuse is also planning on hosting two contests this spring. The first one, called "PATRIOT" will be flown on Saturday, May 18th. This contest is a local meet. The second one, called "TOMAHAWK" will be flown on June 22-23. This meet is a regional. Again, see the "Events Calendar" for a list of the events.

At the present time, some MARS members are planning on attending the two Syracuse meets. If you are interested in sharing a ride contact Dan Wolf. Also at this time, MARS is only planning on attending one of the ASTRE meets, that of course being NYSPACE. Again, there may be rides available for anyone interested in attending NYSPACE.



The new NCR quarter scale kit of the Patriot missile (photo taken from the March1991 issue of *Ace High*, newsletter of the Rocket City Aces, NAR Section #511).

The Gale is a scaled up version of the Zephyr, a B engine Boost/Glider design of former MARS member Phil Slaymaker. The plans for the Zephyr and Phil's scaled down version, the Turnup. have appeared in past issues of this newsletter. The idea for the Gale came to me at BART 90 last fall. Etienne Lavalle commented that he thought the Zephyr was kind of small small for B B/G. Even though I assured him that I had flown the Zephyr several times in B B/G it did get me thinking a bit. Etienne was concerned about the wings doing a "strip tease" under B engine power. In actuality, that has not been a problem with the glider. It has even survived C B/G. No, the problem with the design is that at contests with high winds (and do we have any other kind in upstate NY?) the timers and everybody else will lose sight of it too soon. It also makes the glider difficult to find.

For the Gale, I simply scaled up the Zephyr's dimensions by 25%. This resulted in the templates shown on the next page. Note that there is no pod shown in the plan. Choice of pod is up to you. I normally use the Flanigan standard pod from the MIT Competition Handbook. I have seen Phil's pod plan from the Turnup and Zephyr gliders work too. Use whatever technique works for you.

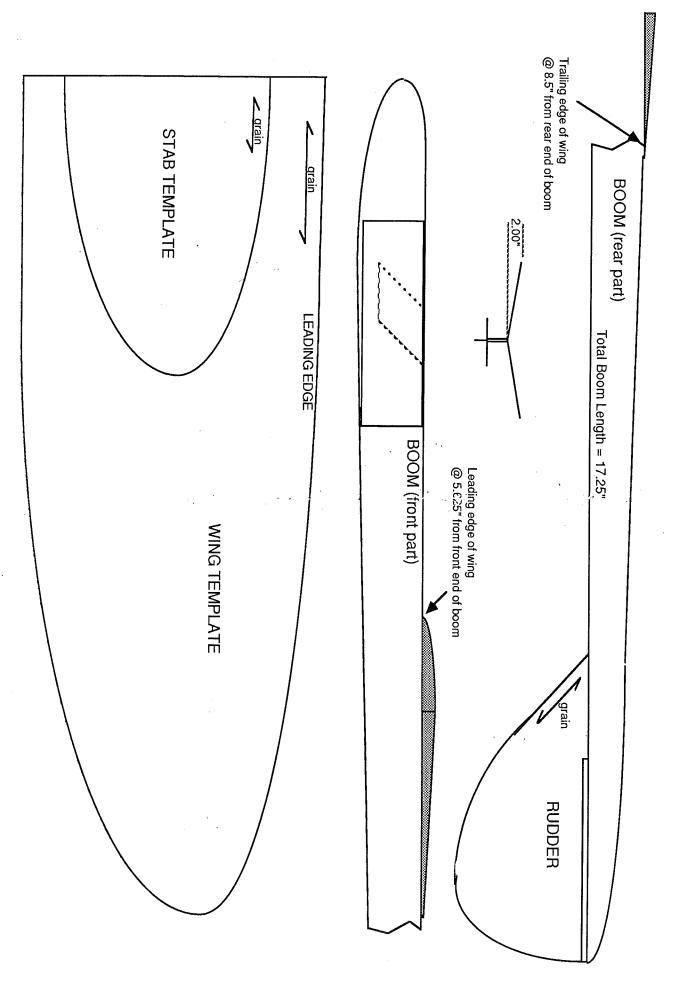
I have shown two different thicknesses of the balsa for the wing, stab and rudder. I plan to build different versions that I will use depending on weather conditions. Otherwise use standard building techniques. Tissuing is recommended.

If you're wondering about the name, since it is a scaled up Zephyr and Zephyr is a gentle breeze I decided to call it a Gale. If I ever scale one up for F B/G I guess I it would be a Hurricane!

Parts List

- 1. Wing 5/32" or 3/16" C grain balsa
- 2. Boom 3/4" x 1/8" x 18" Hard Balsa
- 3. Rudder & Stab 1/32" or 1/16" C grain balsa
- 4. Pod cutout area sides 1/32" or 1/16" balsa

GALE BOOST/GLIDER TEMPLATES - FULL SIZE



As the ModRoc World Turns... (news and rumors heard 'round the hobby)

Manufacturers News...Three companies have released or will release models of the Patriot missile, one of the heroes of the Persian Gulf War. Revell has announced a plastic model kit of the missile including the launcher while Estes and NCR both have already begun shipping flying models. Estes version, is 1/10 scale and built on the BT-60 body tube. It sells for ten dollars. North Coast's version, is a 4" diameter, 54.5" tall, 1/4 scale version of the Patriot. It sells for \$35.95 and will fly on an F25-4, F50-4, G40-7, and the G80-7. The kit includes a "Scud Buster" decal. One interesting note is that the kit sports a LOC plastic nose cone, as it more closely resembles the real one than the NCR aerofoam cone. Aerotech has announced the RMS reloadable motor system for model rockets. These motors are available from "D" through "G" engine classes. They come in 3 sizes. The smallest, the RNS 'D' has a casing that is the size of a standard 18mm engine. This 18mm casing lists for \$49.95 while the D13 reload kit lists for \$6.95 for 3 engines. With several of the Aerotech distributors offering discounts of 10 to 25 percent, these motors offer a full 20 ns D at a repeat cost the same or below that of the 14-17 ns Estes D12. Also in the model rocket line of RMS motors are the 24mm 'E' (engine case @ \$59.95) and the 29mm 'E-G' (\$69.95). Reloads start at \$3.95 for the E16 and go up to \$7.95 for the G64.

In NAR and Tripoli news the two groups have worked out the problems that have existed between the two organizations. This is good news for members of both organizations. Also, the work of the "Tiger Teams" towards the NAR'e entry into high power continues to proceed along with drafts of a high power safety code and high power confirmation process already completed.

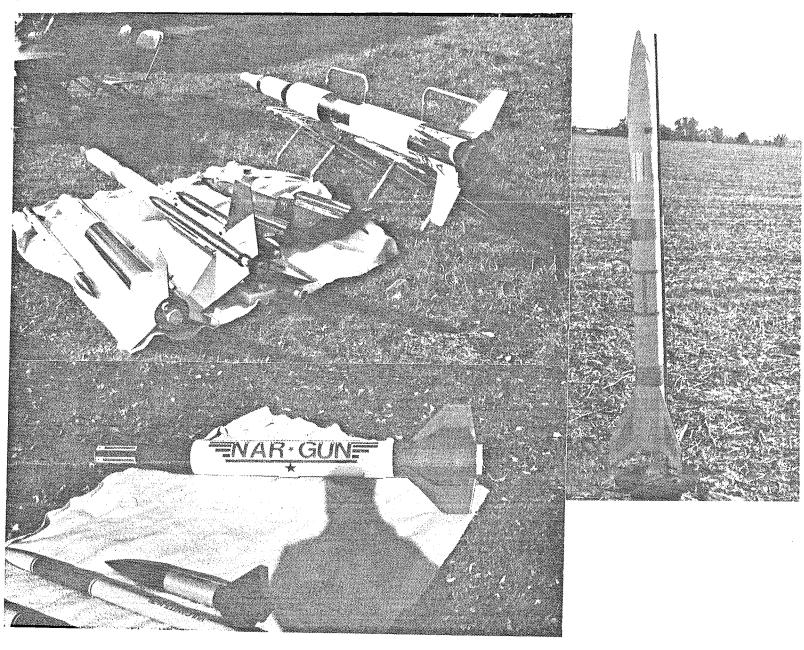
Lastly, the great ice storm of 1991 has left its mark on the MARS flying field. For those of you from out of town who may be reading this, Rochester and the surrounding area was hit last week with the "worst ice storm of the century". Over 250000 homes and businesses were without power, many of them for over a week! Anyway, the chances of putting a rocket in a tree at the field have been greatly reduced as there are hardly any branches left! I know this is good news to Dave Pringle. By the way Dave, your Aerobee Hi parachute came down. Also, Jeff Ryan's "Longshot" came down as well!

NAR TOP TEN COMPETITORS 2/1/91

None	g	n .	
Name A Division	Section	Pts	WF
1. Whymark Matthew	439	2061	6
2. Whymark Jason	439	1890	6
3. Musarra Maureen	439	1347	6
4. Long Cole	511	954	3
5. Whymark Erin	439	870	6
6. Barber Elizabeth	205	840	4
7. Miller Andrew	139	660	4
8. Musarra John	10)	582	6
9. Koenn Matthew	324	546	3
10. Kabinier Brian	205	376	2
B Division			
1. Kmetz John Jr.	511	1641	6
2. Lyon Jennifer	139	380	2
3. Kramer Michael	107	204	2
4. Culpepper Paul	342	136	2
5. Eakin Andrew	494	102	1
6. Sanchez Mauricio	430	30	1
***************************************		20	•
C Division			
1. Wolf Dan	136	1477	8
Feveryear Glen	503	1473	11
3. Kruetz Bob	439	1122	3
4. Brown Ken	205	1107	5
5. Rose Art		807	3
6. Whymark Tom	439	717	6
7. Canino Bruce	439	672	6
8. Demar John		664	5
9. Green Roy	494	567	3
10. Beever George	503	512	6
Teams			
1. Jankov/Pavlov/Kovalev	205	3618	12
2. Southern Comfort	511	2457	6
3. Shake & Bake	511	1770	6
4. Imploding White Mice		1398	3
5. Beach Bums	317	910	3
6. Kmetz D&D	511	903	6
7. Mystical Ship		864	3
8. Team Neutron	477	848	2
9. Panic 7300	494	780	3
10. Star Girls		520	2
Sections			
1. Garden State	439	9138	
2. Rocket City Aces	511	8718	
3. NOVAAR	205	4544	
4. SPAAR	503	2100	
5. GAMMA	494	1863	
6. CMAR	477	1818	
7. MARS	136	1802	
8. NARHAMS	139	1754	
9. DART	317	1664	
10. Space Coast	324	1393	
•			

(above information from RCA newletter "ACE HIGH")

PHOTO PAGE I DANVILLE 1990 II



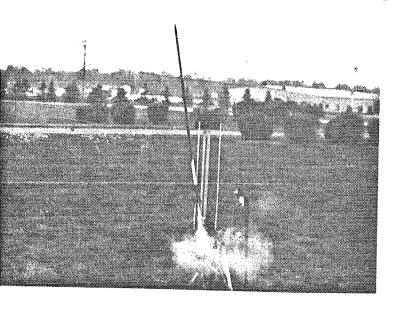
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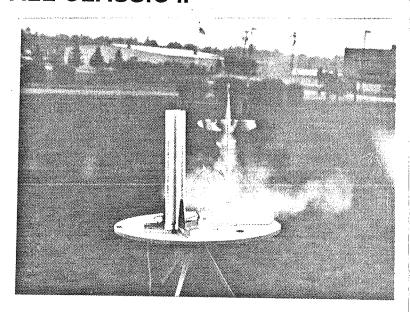
- 1. An assortment of the many "Honkin' Huge" rockets flown at Danville, including an 8" diameter, 7'+ tall Saturn V flown at the launch with 4 I motors.
- 2. Dan Wolf's North Coast Phantom 4000HD ready for liftoff with an 195 motor. Ignition problems caused the launch of the Phantom to be scrubbed.
- 3. Bob Hegwood's "NAR GUN". Bob flew this nicely finished model for his successful confirmation flight with an I220 and 2 G80 motors!

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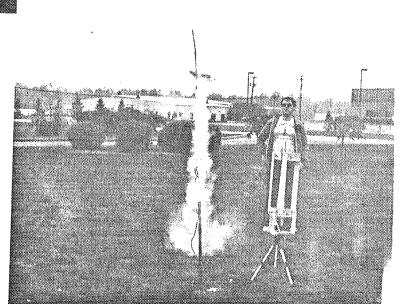
- 1. The Star Girls entry in A SupeRoc, an Estes "Skinny Mini" with an extra section of BT-5 for maximum length heads to the skys and to a second place finish.
- 2. Mike O'Brien's homebrew A R/G entry, sporting a "Desert Storm" paint job, at liftoff of its "sortie" on the range crew!
- 3. David A Pringle returns his winning A Superoc model along with the "rocket eating plant" it landed in.
- 4. Dan Wolf prepares to launch his A B/G entry while Jeff Ryan looks on.
- 5. David J. Pringle getting his NCR "Mini Nomad" ready for launch in A R/G.
- 6. Dan Wolf's winning A B/G entry, the "Turnup", heads skyward

PHOTO PAGE II FINGER LAKES FALL CLASSIC II









Events Calendar

Model Rocketry related events in the Upstate New York or of interest to rocketeers of this area are listed below. If you have an upcoming model rocket event planned, send info to the editor.

March 17th, 1:30 PM. St Patrick's Day MARS Sport Launch. Location: Videk, Farmington, NY. 1/4 mile south of New York Thruway Exit 44 at corner of Rt. 332 and Collet Road. Contact: Dan Wolf 458-3848.

April 12-14, 20th Annual Pearl River Modroc Seminar. Pearl River, NY. Contact: Richard Nelson c/o Pearl River Middle School. 520 Gilbert Ave., Pearl River, NY 10965.

April 20-21 BART vs. the Smog Monster, Regional. Hosted by ASTRE, Amsterdam, NY. Events: B ELAlt, FAI S3A (A PD), B HD MR, E ELDur (B & C Div Only), B SD (A Div Only), B ELDur (A Div Only). Contact: Jeff Vincent (518)439-2055.

April 21st, 2:00 PM. MARS Sport Launch. Date Tentative. Location: Videk, Farmington, NY. 1/4 mile south of New York Thruway Exit 44 at corner of Rt. 332 and Collet Road. Contact: Dan Wolf 458-3848.

May 4-5 UPSTATE III, Open Meet. Location: Videk, Farmington, NY. Events: A PL, B ELAlt, A R/G, PreDur (120 sec), B HD, 1/2A PD (MR), OSL. Contact: Dan Wolf 458-3848.

May 11-12 Northeast Boost/Glider Championships (NBGC) Regional. Hosted by ASTRE, Amsterdam, NY. Events: D SD, 1/2 A FW (MR), B B/G, D B/G, A R/G (B & C Div Only), RC R/G (2 Min) (B & C Div Only), 1/2 A PD (A Div Only), B ELDur (A Div Only). A HD (A Div Only). Contact: Jeff Vincent (518)439-2055.

May 18 PATRIOT, Local Meet. Hosted by SRBs, Syracuse, NY. Events: Random Dur, OSL, 1/2A PD, 1/2A B/G, A SRDur, B SD, Sport Scale. Contact: John DeMar (315)451-6470.

May 25-26, NYSPACE (New York Spacemodeling Annual Championship & Exhibition) Regional. Hosted by ASTRE, Amsterdam, NY. Events: A PL, A SRAlt, A SD MR, B B/G, C HD, Random Dur., Sport Scale. Special NYS Section Champion award. Contact: Jeff Vincent (518)439-2055.

June 8-9, AUR (Almost Upstate Repeat) Open Meet. Location: Videk, Farmington, NY. Events: A PL, B ELAlt, B B/G, PreDur (120 sec), B HD, A SD (MR), OSL. Contact: Dan Wolf 458-3848.

June 22-23, TOMAHAWK Regional. Hosted by SRBs, Syracuse, NY. Events: PreDur (120 Sec), OSL, 1/2A PD, A SD, B B/G, C HD, A R/G (A Div Only), RC R/G (2 min) (B&C Div Only), Peanut Sport Scale. Contact: John DeMar (315)451-6470.

August 5-9 NARAM 33, Chicago, IL.
National Association of Rocketry Annual Meet.
Events: 1/2A PD, A SD, A R/G, C HD, A PL, B
ELAlt, B B/G, RC R/G (2 min), PreDur(120 Sec),
OSL, R&D, Peanut Sport Scale.

THE UPSTATE ROCKETEER

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